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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,415

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Shinji Nara

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EXAMINER

HAVLIN, ROBERT H

ART UNIT

PAPER NUMBER

1626

MAIL DATE

DELIVERY MODE

07/10/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,415	Applicant(s) NARA ET AL.	
	Examiner ROBERT HAVLIN	Art Unit 1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 30 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11,12,15-17 and 32-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11,12,15-17 and 32-35 is/are rejected.
- 7) ☒ Claim(s) 11,12,15-17 and 32-35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of the claims: Claims 11, 12, 15-17, 32-35 are currently pending.

RCE: A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/30/08 has been entered.

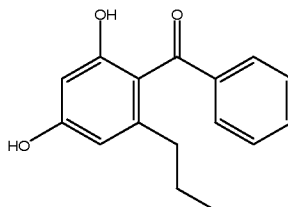
Election/Restriction

Group V was previously elected along with the species identified in the prior office action.

Prior Claim rejections

Double patenting: The claims were rejected over claims 1-18 of copending application 10/584,234. The double patenting rejection of claims 11, 12, 15-18, 32-35 is **withdrawn** because applicant has filed a terminal disclaimer obviating the rejection.

102(b): Claims 11 and 12 were rejected under 35 U.S.C. 102(b) as being anticipated by Kimata et al. (abstract of Memoirs of the Research Institute for Food Science, Kyoto University (1953), No. 6, 3-11; CAPLUS accession number 1953:73378).



Kimata et al. teaches the compound 2,4-dihydroxy-6-propyl-benzophenone which was a member of the genus of claim 11. Applicant amended the claims to require a non-hydrogen substitution at the 5-position of the 2,4-dihydroxy phenyl ring. Thus, because the claims no longer read on the prior art, **the rejection is withdrawn.**

NEW CLAIM REJECTIONS

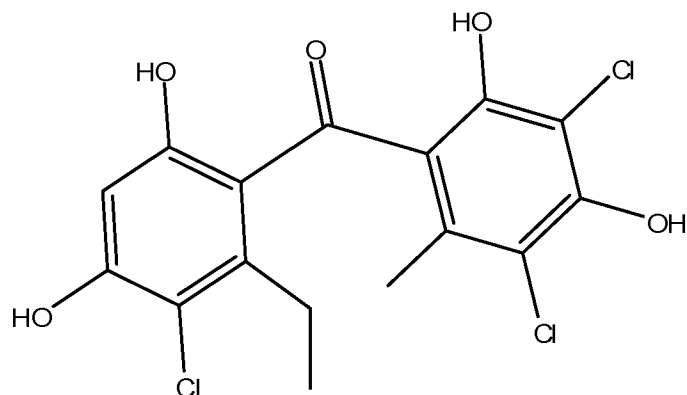
Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

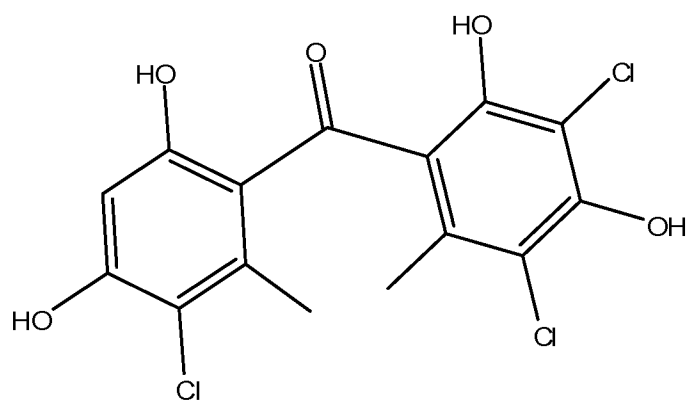
2. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sala et al. (Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999), (1981), (3), 855-69) in view of Muller (Abstract of Appl Microbiol Biotechnol. 2001 Jul;56(1-2):9-16.), and Silverman (The Org. Chem. of Drug Design and Drug Action, Academic Press, Inc.: San Diego, 1992, pp. 4-51).

The claims read on a compound of formula IA with the following structure:



Which is similar to the compound of claim 11 when R3A, R4A, R5A are all hydrogen; R6A is chlorine; nA is 1; R1A is methyl; an R2A is 3,5-dichloro-2,4-dihydroxy-6-methylphenyl.

Sala et al. teaches the compound:



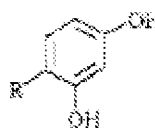
in the synthesis of the desired lichen depsidone.

Silverman teaches generally drug optimization through chemical modification which is well known in the art. Specifically, on pages 16-17 the reference teaches how a methyl substituent on a phenyl group can be modified to an ethyl group, just as in this instant case.

Muller reviews the pharmaceutical importance of the depsidone compounds.

Finding of prima facie obviousness

Upon reading the teachings of Sala, one of ordinary skill in the art would recognize that the compound, useful as a pharmaceutical as taught by Muller, could be modified at the "R1A" position while maintaining the desired activity. Silverman teaches how alkyl groups should be modified in order to improve their activity. Specifically,



Silverman shows that phenyl groups of the formula had improved activity when the R alkyl group was altered from methyl to ethyl. In addition, the Sala compound is a homolog of the instant claims, only differing by an addition of a -CH₂- group, thus one of ordinary skill in the art would expect the physical properties of the two compounds to be similar.

This is further supported by caselaw and the MPEP in section 2144.09(II):

Compounds which are position isomers (compounds having the same radicals in physically different positions on the same nucleus) or homologs (compounds differing regularly by the successive addition of the same chemical group, e.g., by -CH₂- groups) are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties. In re Wilder, 563 F.2d 457, 195 USPQ 426 (CCPA 1977); see also In re May, 574 F.2d 1082, 197 USPQ 601 (CCPA 1978).

Therefore, because the reference teaches homologs of the instantly claimed compounds and the MPEP states that homologs are presumed to possess similar properties, it would have been obvious to one of ordinary skill in the art to modify the alkyl chain length and arrive at the instant invention.

One of ordinary skill in the art would have been guided by the prior art to make the invention as claimed because Sala shows the compound with activity as taught by Muller, while Silverman teaches how to modify the compound to arrive at the instant invention. Therefore, the claims are obvious.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 11, 12, 15-17, and 32-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim uses the terminology of “substituted” which does not have a definite boundary and is by definition indefinite. For example, “substituted aryl” can be substituted by another substituted group, ad infinitum. The claim should be written in a manner such that one of ordinary skill in the art can appreciate the metes and bounds of the claims without having to guess at where the boundaries lie.

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 11, 12, 15-17, and 32-35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the

application was filed, had possession of the claimed invention. Although applicant has reduced to practice a large number of compounds, when giving the term "substituted" in the claims its broadest reasonable interpretation the claims read on a scope that the applicant can not possibly have possessed. Currently the claims read on an infinite number of compounds, thus the claims lack sufficient "blazemarks" to allow one of ordinary skill in the art to appreciate that applicant did possess the entire scope of the claims.

Claim Objections

All pending claims are objected to for reading on non-elected subject matter resulting from the restriction to the elected species.

Conclusion

No claim is in condition for allowance.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT HAVLIN whose telephone number is (571)272-9066. The examiner can normally be reached on Mon. - Fri., 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful the examiner's supervisor, Joe McKane can be reached at (571) 272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Havlin/
Robert Havlin, Ph.D.
Examiner
Art Unit 1626

/Kamal A Saeed, Ph.D./
Primary Examiner, Art Unit 1626